Item 90 FY97
04DS1
20 July 1995

PURCHASE DESCRIPTION

ANALYZER, VECTOR NETWORK

AN2MM-B

1.0 GENERAL This procurement requires a vector network analyzer capable of measuring transmission and reflection parameters on a swept frequency and CW basis with readouts of attenuation, gain, phase shift, reflection coefficient, return loss, and impedance.

2. 0 CLASSIFICATION Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. 0 OPERATIONAL REQUIREMENTS The equipment shall be capable of measuring transmission and reflection parameters on a swept frequency or CW basis within the minimum ranges, accuracies, and limits specified below.

3.1 Converter An RF converter shall be provided as part of the equipment and shall be capable of processing RF input signals for presentation by the display within the parameters and accuracies specified below.

3.1.1 Frequency range. 110 MHz to 18 GHz.

3.1.2 Input impedance. 50 ohms nominal. SWR: 2.0 maximum from 110 MHz to 6 GHz, 3.0 maximum from 6 to 18 GHz.

3.1.3 Channel isolation. 60 dB minimum from 110 MHz to 12.4 GHz, 50 dB minimum from 12.4 to 18 GHz.

3.1.4 Magnitude range.

3.1.4.1 Reference channel power range. -35 dBm to -18 dBm from 110 MHz to 12.4 GHz, -25 dBm to -18 dBm from 12.4 to 18 GHz.

3.1.4.2 Test channel power range. -75 dBm to -10 dBm from 110 MHz to 12.4 GHz, -68 dBm or less to at least -10 dBm from 12.4 to 18 GHz.

3.1.4.3 Maximum rf input. 50 mW.

3.1.4.4 IF gain control. The IF gain control shall have a range of at least 69 dB in 10 dB and 1 dB steps with a maximum cumulative error of ±0.2 dB.

3.1.5 Phase measurement range. 0° to 360°.

3.2 Display A display shall be provided to display relative amplitude in dB and relative phase in degrees between reference and test channel inputs versus frequency.

3.2.1 Amplitude display range. 80 dB minimum. Accuracy: ±0.08 dB per dB from midscreen.

3.2.2 Phase display range. ±180°. Accuracy: ±0.065° per degree from midscreen.

3.2.2.1 Phase offset. The phase offset shall not exceed 0.3° per 20° step and shall not exceed 3° for a 360° change.

4.0 GENERAL REQUIREMENTS

4.1 Power Source MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 190W.

4.2 Lithium Batteries Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.3 Weight 47 kg (104 lb) maximum.